

Rockwell ER Program
Rocky Flats Plant

(9/22/89)

ER PROGRAM DATA ASSESSMENT
SUMMARY REPORT FORM

Batch No. E88-2939, E88-3068,
E88-3080/3 Quarter 1988

Laboratory RFP - 881 General Labs

Site Area 2 - 881 Hillside; Area 4 - Mound;
Area 5 - East Trenches

No. of Samples/Matrix 38/Water

Reviewer Org. TechLaw, Inc.

Sample Numbers 56-86, 70-86, 2-87, 62-86, 4-87, TB(7/19/88), FB(7/19/88), 69-86, 52-87, 10-74, 5-87, 9-74,
43-87, 3-87, 8-87, 25-87, 45-87, EB(7/22/88), 25-87D, 3-74, 36-87, 39-86, 32-87, TB(8/23/88), FB(8/23/88),
EB(8/23/88), 27-87, 27-87D, 42-86, 31-87, 22-87, 23-87, 34-86, 35-86, 1-74, TB(8/16/88), FB(8/16/88), 17-87

Data Assessment Summary

Gross α and β and Radiometric Analyses
by Gas Proportional Counters
Includes: Gross α and β , Total Sr, Total Cs, Ra²²⁸

Comments

1. Holding Times	<u>V</u>	
2. Initial Calibrations	<u>V</u>	
3. Continuing Calibrations	<u>V</u>	
4. Blanks	<u>V</u>	
5. Lab Replicates	<u>V</u>	
6. Lab Control Samples	<u>V</u>	
7. QC-LLD	<u>V</u>	
8. Size of Aliquot	<u>V</u>	However, well sample 56-86 insufficient aliquot
9. Self Absorption-Recovery Factors	<u>A</u>	α and β calibration standards not counted for 10,000 counts minimum, (JA)-Sample 4-87 exceeded mg limit and was rerun past lab holding time limit. See Action items.
10. Sample Calculations	<u>A</u>	2 σ error values not verifiable
11. Overall Assessment	<u>A</u>	Data acceptable, with qualifications

V = Data had no problems.

A = Data acceptable but qualified due to problems.

R = Data rejected.

X = Problems, but do not affect data.

Data Quality: Data contained in this batch were reviewed and found to be acceptable with qualifications. Acceptable,

qualified data may be used, provided that individual values impacted by the "Action Items" listed below are

appropriately flagged. (Refer to attached Results Summary Table.)

ADMIN RECORD

"REVIEWED FOR CLASSIFICATION

By R. B. Hoffman

Date 11-90

REVIEWED FOR CLASSIFICATION/UCNI

1 By George H. Setlock

Date @ 6/25/90

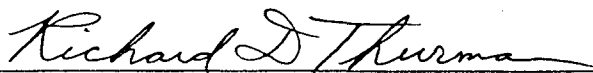
rfp881/radchem2

A-0001-000054

Action Items: Calibration standards for α and β efficiency curves were not counted the minimum of 10,000 counts for a 2σ statistical error of 2.0%, all samples flagged estimated (J). Well sample 4-87 exceeded the weight limit of the efficiency curve and exceeded the RDL. It was rerun past the lab holding time limit and the rerun results are flagged as estimated (J). Well sample 10-74 had a weight of 92.6 mg and exceeded the RDL. It was rerun past the holding time limit and the sample results are flagged as estimated (J). Well sample 56-86 had insufficient aliquot and exceeded the RDL and the sample results are flagged as estimated (J). Calculations of 2σ uncertainties were consistent with lab reported 2σ values, but actual uncertainty values reported could not be independently verified--all sample results flagged as estimated (J). Due to inadequate standard counting times (collecting approximately 4500 counts for α ; approximately 8000 for β) and independently unverifiable uncertainty values, all sample results are qualified as acceptable, with qualifications (A).

Comments: Control standards for α and β efficiency curves need to be counted a minimum of 10,000 counts. Well sample 56-86 exceeded the RDL because only 50 ml aliquot was used instead of 100ml, volume constraints should be explained in the case narrative. The laboratory method for determining 2σ error limits could not be verified, however, values obtained by an alternate method appeared to be consistent with the reported error limits.

Note: Data Summary Tables are attached.


Reviewer Signature

9/29/89
Date

RADIOCHEMICAL ANALYSIS ANALYTICAL RESULTS (pCi/L)

TABLE # E88-2939/3 Quarter 1988 Page 1 of 5
SITE NAME: Rocky Flats Plant - 881 Hillside

Sample Location	56-86	70-86	2-87	62-86	4-87	TB	FB	69-86	52-87
Sample Number	2939-56-86	2939-70-86	2939-2-87	2939-62-86	2939-4-87	2939-TB	2939-FB	2939-69-86	2939-52-87
Sample Date	7/14/88	7/14/88	7/14/88	7/15/88	7/15/88	7/19/88	7/19/88	7/19/88	7/19/88
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water
Parameter	DL	DL	DL	DL	DL	DL	DL	DL	DL
Gross Alpha	2	2	1	1	1	1	1	1	1
Gross Beta	4	4	3	JA	6	2	JA	6	2
Total Strontium	1	1	1	1	1	1	1	1	1
Total Cesium	1	1	1	1	1	1	1	1	1
Radium 228	1	1	1	1	1	1	1	1	1
Tritium	400	400	400	400	400	400	400	400	400
Uranium 234 & 233	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Uranium 235	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Uranium 238	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Plutonium 239 & 240	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Americium 241 & 242	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Radium 226	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Gamma scan									
Other isotopes									

- E Exceeds calibration range.
- U Indicates the compound was not detected above the Instrument Quantitation Limit
- J Quantitation is approximate due to limitations identified during the quality control review
- Value is rejected due to other contractual criteria examined during the quality control review
- ** Value is rejected due to blank contamination identified during the quality control review
- DL Detection Limit in Picocuries per Liter (pCi/L)

DQ Data Qualifier
 V Valid
 A Acceptable with qualifications
 R Rejected

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 2939L/RADIOCHEM2

RADIOCHEMICAL ANALYSIS ANALYTICAL RESULTS (pCi/L)

TABLE # E88-2939/3 Quarter 1988 Page 2 of 5
SITE NAME: Rocky Flats Plant - 881 Hillside

Sample Location	10-74	5-87	9-74	43-87	3-87	8-87	45-87	ER																				
Sample Number	2939-10-74	2939-5-87	2939-9-74	2939-43-87	2939-3-87	2939-8-87/TB	2939-45-87	2939-EB																				
Sample Date	7/20/88	7/20/88	7/21/88	7/21/88	7/22/88	7/22/88	7/22/88	7/22/88																				
Matrix	Water	Water	Water	Water	Water	Water	Water	Water																				
DL																												
Parameter	pCi/L	Val.	+/-	DQ	Val.	+/-	DQ	Val.	+/-	DQ	Val.	+/-	DQ	Val.	+/-	DQ	Val.	+/-	DQ									
Gross Alpha	2	3	4	JA	13	5	JA	15	4	JA	21	4	JA	2	1	JA	8	3	JA	2	1	JA	0	1	UJA			
Gross Beta	4	1	3	UJA	17	6	JA	11	3	JA	21	4	JA	6	2	JA	10	3	JA	14	2	JA	0	2	UJA			
Total Strontium	1																											
Total Cesium	1																											
Radium 228	1																											
Tritium	400																											
Uranium 234 & 233	0.06																											
Uranium 235	0.06																											
Uranium 238	0.06																											
Plutonium 239 & 240	0.01																											
Americium 241 & 242	0.01																											
Radium 226	0.05																											
Gamma scan																												
Other Isotopes																												

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DQ Data Qualifier
V Valid
A Acceptable with qualifications
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Form radtbl.wk1
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RADIOCHEMICAL ANALYSIS ANALYTICAL RESULTS (PC/L)

TABLE # E88-3068/3 Quarter 1988 Page 3 of 5
SITE NAME: Rocky Flats Plant - Mound

Sample Location	22-87	23-87	34-86	35-86	1-74	TB	FB	17-87																	
Sample Number	3068-22-87	3068-23-87	3068-34-86	3068-35-86	3068-1-74	3068-TB	3068-FB	3068-17-87																	
Sample Date	8/12/88	8/12/88	8/12/88	8/12/88	8/12/88	8/16/88	8/16/88	8/16/88																	
Matrix	Water	Water	Water	Water	Water	Water	Water	Water																	
DL	Val.	+/-	DQ	Val.	+/-	DQ	Val.	+/-	DQ	Val.	+/-	DQ	Val.	+/-	DQ										
Parameter	pcvl																								
Gross Alpha	2	3	1	JA	5	1	JA	-3	3	UA	5	3	JA	4	1	JA	0	1	UA	0	1	UA	3	1	JA
Gross Beta	4	11	2	JA	5	2	JA	7	5	JA	2	4	UA	3	2	UA	0	1	UA	-1	1	UA	6	2	JA
Total Strontium	1																								
Total Cesium	1																								
Radium 228	1																								
Tritium	400																								
Uranium 234 & 233	0.06																								
Uranium 235	0.06																								
Uranium 238	0.06																								
Plutonium 239 & 240	0.01																								
Americium 241 & 242	0.01																								
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2939L/RADCHEM2

RADIOCHEMICAL ANALYSIS
ANALYTICAL RESULTS (pCi/L)
TABLE # E88-3080/3 Quarter 1988 Page 4 of 5
SITE NAME: Rocky Flats Plant - East Trenches

Sample Location	25-87	25-87D	3-74	36-87	39-86	32-87	TB	FB	EB							
Sample Number	3080-25-87	3080-25-87D	3080-3-74	3080-36-87	3080-39-86	3080-32-87	3080-TB	3080-FB	3080-EB							
Sample Date	8/16/88	8/16/88	8/19/88	8/19/88	8/19/88	8/23/88	8/23/88	8/23/88	8/23/88							
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water							
DL																
Parameter	pCi/L	Val.	+/-	DQ	Val.	+/-	DQ	Val.	+/-	DQ	Val.	+/-	DQ	Val.	+/-	DQ
Gross Alpha	2	3	1	JA	3	1	JA	5	1	JA	2	1	JA	2	1	JA
Gross Beta	4	3	1	UJA	2	1	UJA	4	1	JA	5	1	JA	4	1	JA
Total Strontium	1															
Total Cesium	1															
Radium 228	1															
Tritium	400															
Uranium 234 & 233	0.06															
Uranium 235	0.06															
Uranium 238	0.06															
Plutonium 239 & 240	0.01															
Americium 241 & 242	0.01															
Radium 226	0.05															
Gamma scan																
Other Isotopes																

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J	Quantitation is approximate due to limitations identified during the quality control review
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DL	Detection Limit in Picograms per Liter (pg/L)

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